

*777-12-1*  
S/074/61/030/009/001/001  
B117/B110

AUTHOR: Khaydúk, I. (Rumania)

TITLE: Polymeric Coordination Compounds

PERIODICAL: Uspekhi khimii, v. 30, no. 9, 1961, 1124 - 1174

TEXT: This is a literature discussion of polymeric coordination compounds, mostly consisting of western literature. The paper is divided into the following chapters: systematyz of inorganic polymers; low-molecular coordination polymers including cyclic coordination polymers with the coordination numbers 4, 6, 8 and polymer alkoxydes; high-molecular coordination polymers including polymeric complexes with the coordination numbers 2, 3, 6 and 4. The latter are subdivided into complexes with quadratic plane units and complexes with tetrahedral units; polymers having electron deficiency; chelate polymeric compounds; production of coordination polymers in aqueous solution and in liquid ammonia. Finally the author deals briefly with the perspectives and the problems to be investigated. The review of the existent literature shows, that the investigations in the field of the chemistry of polymer coordination compounds is at the beginning

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Polymeric Coordination Compounds

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of its development. The author proposes to investigate the structure of inorganic, potential polymeric compounds, and especially of the compounds of transition metals by using the roentgenography, the electron diffraction method, the spectral analysis and other physical methods. Another problem to be dealt with is the determination of molecular weight of inorganic compounds and of their organic derivatives under different conditions, particularly in inert solvents in which occurs coordinative association and (if possible) in the gas phase. The physical and chemical investigations of coordination polymers should deal with the mechanism and the kinetics of formation and decomposition, the equilibrium in solution, the determination of thermodynamic quantities and so on. The theoretic study of coordination polymers should deal with the nature of chemical bonds in these polymers and with their stereochemistry. The synthesis of new coordination polymers is to be investigated. Lastly, new practical possibilities for the application should be found. The coordination compounds can be used to produce materials with special properties, such as materials with high heat resistance, semiconductors, dielectrics, catalysts and many others. Following Soviet authors are mentioned: A. A. Berlin, V. P. Parini, P. A. Akishin, A. V. Novoselova, N. G. Matveyeva, V. V. Korshak, A. V. Slavvo, Ya. K. Syrkin.

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There are 23 figures, 7 tables, and 483 references: 62 Soviet-bloc and 421 non-Soviet-bloc. The four most recent references to the English-language publications read as follows: B. I. Intorre, A. E. Martell, J. Am. Chem. Soc., 82, 358 (1960); R. S. Tobias, J. Am. Chem. Soc., 82, 1070 (1960); D. B. Sowerby, L. F. Audrieth, J. Chem. Educ., 37, 2, 86, 134 (1960); E. Bannister, G. Wilkinson, Chem. & Ind., 1960, 319.

ASSOCIATION: Facultatea de Chimie, Universitatea "Babes - Bolyai", Cluj, R. R. România (Chemical Division, University "Babes - Bolyai", Kluzh, Rumania)

Card 3/3

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810020-6

SOCOLESCU, M.; BONEA, Lidia; HAIDUC, P.

Contributions to the knowledge of the copper mineralization at  
the Pirul lui Avram, Muntii Apuseni. Rev min 14 no.9:393-402 S '63.

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810020-6"

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810020-6

HAIDUKIEWICZ, S.

PROBLEMS AND PRACTICAL WORK

Safety measures in the Polish superphosphate industry. S. Haidukiewicz. Przemysl Chemiczny 28, TRW-UR (1980). Frank Gonet

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810020-6"

HAIM, E., ing.

Crystallization of nonvulcanized rubber. Industria usoara  
3 no.2:60-69 F '56.

HAIM, E.

MA 40072 3  
D 600 60

0101. Crystallization of vulcanized rubber. P.  
FEARNS. *Industria Uscana*, 1956, 8, 184-85. In  
Romanian. This is a literature survey with 18  
references, similar to the same author's survey on  
crystallization of unvulcanized rubber (this journal,  
1956, abn. 2277).

63-23

HAIM, E., ing.

Thermodynamics of rubber elasticity in the light of the works  
of G.M.Bartenev. Industria usoara 3 no.8:321-330 Ag '56.

15

BUDUESCU, M., ing. tehnolog; ABRAMOVICI, J., ing. tehnolog; HAIM, E., ing.  
tehnolog; STREIT, E., ing. mecanic; IONESCU, I., arh.

Complex planning and designing helping a systematic introduction  
of new technics in the rubber industry. Industria usoara 3  
no.10:416-420 0 '56.

Haim, E.

Rumania/Atomic and Molecular Physics - Physics of High Molecular Substances, D-9

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34520

Author: Haim, E.

Institution: None

Title: Geometry of High Polymers

Original Periodical: Rev. chim., 1956, No 4, 206-213; Rumanian; Russian and German  
resumés

Abstract: The shape of filament-like polymers is studied. After examining the free rotation, the basic Ayring equation is cited. Next, the restricted rotation is examined, after which the basic relationships are refined and the concept of the potential barrier is introduced. Particular significance is attributed to the work by M. V. Vol'kenshteyn who explained the features of the internal dynamics of macromolecules by introducing the concept of "rotary isomers."

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Haim, E.

Distr: hE2c(j)

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✓ Thermodynamics of the elasticity of rubber in the light of the work of G. M. Bartenev, E. Haim. *Ind. usoră* (Bucharest) 3, 321-30 (1950); cf. C.A. 43, 1000c. — While the elasticity of cryst. materials is based on the variation of their internal energy, the superelasticity of rubber is due in part also to the variation of the entropy. The thermodynamic relation considered is valid only for the equil. case, which is invariable with respect to time; thus, the effects of the relaxation of tension must be disregarded. Crystn. of the amorphous material must also be excluded from consideration. The special character of the elongation of rubber is caused by its fibrous macromol. structure. — F. Kertesz

JJ: JH

HAIM, E.  
RUMANIA/Chemical Technology, Chemical Products and Their  
Application, Part 4. - Natural and Synthetic Caout-  
chouc, Rubber.

H-31

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 34522.

Author : E. Haim.  
Inst : Not given.  
Title : Experimental Studies of Rubber Elasticity.

Orig Pub: Ind. uscara, 1957, 4, No 4, 165-172.

Abstract: Review. Bibliography with 8 titles.

Card : 1/1

/6

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810020-6

HAIM, E.

Kinetic theories of rubber elasticity. I. Elasticity of thread-shaped macromolecules.

p. 171 (REVISTA DE CHIMIE) (Bucuresti, Rumania) Vol. 8, No. 3. Mar. 1957

SO: Monthly Index of East European Accessions (EEAI) EC Vol. 7, No. 5. 1958

RUMANIA/Atomic and Molecular Physics - Polymers and Their Reactions D-11

Abs Jour : Ref Zhur - Fizika, No 4, 1959, No 5572

Author : Haim E.

Inst :

Title : Kinetic Theory of the Elasticity of Rubber. Elasticity of  
the Molecular Lattice

Orig Pub : Ind. usoara, 1958, 5, No 5, 177-185

Abstract : Survey. Bibliography, 22 titles

Card : 1/1

HAIM, Jovan

HAIM, Jovan, pukovnik, dr.

Allergodermia. Voj. san. pregl., Beogr. 11 no.3-4:122-125 Mar-Apr 54.

1. Poliklinika VMA Dermatoloski kabinet.  
(SKIN, dis.  
\*allergy) (ALLERGY, manifest.  
\*skin reactions)

HAIM, Jovan, Pukovnik dr.; DURIC, Gragomir, potpukovnik dr.;  
ALEKSIC, Miodrag, potpukovnik dr.

Venereal diseases. Voj. san. pregl., Beogr. 13 no.  
1-2:82-87 Jan-Feb 56.

1. Poliklinika VMA.  
(VENERAL DISEASES, epidemiology,  
in Yugosl. army (Ser))  
(ARMED FORCES PERSONNEL, diseases,  
venereal dis. in Yugosl. (Ser))

HAIM, M.

"Take-off of jet-propelled gliders," Narodna Krila, Geograd, Vol 6, No 3,  
May/June 1953, p. 37.

SO: Eastern European Accessions List, Vol 3, No 11, Nov 1954, L.C.

LUKACS, Sandor, dr. (Budapest); HALM, Tibor, dr.

"Defect" in the wall of the spaceship. Term tud kozl  
4 no. 6:245-246 Je '60.

HAIKAGHI, G.

Colloidal argils from the point of view of road construction.

P. 17 (REVISTA TRANSPORTUROR) (Bucuresti, Romania) Vol. 4, no. 12, Dec. 1957

30: Monthly Index of East European Acquisitions (EMAI) Vol. 7, No. 5, 1958

HARLAN, GY.

New ways of typesetting. p. 664. Vol 114, no. 11, Nov. 1955. TER'ESET ES TARSZ  
ADALOM. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

HAIMOS, I.

6. Preparation of products rich in glucose and fructose from sugar syrup - I. Iános, (Cukorgyári Katalógus Közleményei - Vol. 1, 1958; No. 3, pp. 155-159, 5 figs.)

(4)

A process was developed for the preparation of a solid product with a high glucose and a low fructose content and of a syrup with high fructose and low glucose content using the equipment and chemicals of the sugar refining plant. The principle of the procedure is the elimination of an essential part of the fructose from totally inverted sugar juice by the use of slaked lime.

After filtration and saturation the liquor enriched in glucose was concentrated. The precipitation containing calcium fructosate, calcium carbonate and excess lime was suspended in water, saturated, and finally concentrated yielding a syrup rich in fructose. The product with a high glucose content is useful as nutrient or as medicament for persons suffering from heart ailments and the product rich in fructose for diabetics.

RYZHKOV, O.A.; HAIMOV, R.N.; ZUYEV, Yu.N.

New data on the gas potential of the Paleozoic sediments of the  
Samarkand megasyncline. Neftegaz.geol. i geofiz. no. 12:3-5 '63.  
(MIRA 17:5)

1. Institut geologii i razrabotki neftyanykh i gazovykh mestorozhdeniy  
AN UzSSR.

MOLLOV, N.; HAIMOVA, M.; TSCHERNEVA, N.; PECIGARCOVA, N.; OGNJANOV, I.;  
PANOV, P.

On alkaloids of Aconitum ranunculeafolium. Dokl. Bolg. akad.  
nauk 17 no.1:251-254 '64.

1. Vorgelegt von B. Kurtev, korrig. Mitglied der Akademie.

HAIMOVICI, ADOLF

Haimovici, Adolf. Sur la géométrie d'un groupe de contact. Ann. Sci. Univ. Jassy. Partie I. 29 (1943), 101-119 (1946).

The author studies the geometry of the four-parameter group of contact transformations of lineal elements in the plane consisting of Euclidean motions and dilatations. A dilatation is a contact transformation whereby each lineal element is displaced through a constant direction parallel to itself. This is a subgroup of the six-parameter group, the whirl-motion group  $G_6$ , consisting of motions and whirls, which has been studied extensively by Kasner and De Cicco. [See Kasner, Amer. J. Math. 33, 193-202 (1911); De Cicco, Trans. Amer. Math. Soc. 46, 348-361 (1939); 47, 207-228

(1940); these Rev. I, 84, 170.] The differential invariants of a series of lineal elements under this four-parameter group are found. It is shown that the only differential invariant of a curve is  $IR/\phi$ , where  $R$  is the radius of curvature and  $\phi$  is the angle that the tangent to the curve makes with a fixed direction.

The author also develops the geometry of the seven-parameter group of contact transformations of surface elements in space consisting of Euclidean motions and planar dilatations. Another proof is given of the theorem that the ratio of the curvature and torsion of the edge of regression of a developable surface is invariant under dilatation. Finally the author obtains the differential invariants of double series of elements consisting of  $\omega^1$  surface elements under this seven-parameter group.

J. De Cicco.

Source: Mathematical Reviews.

Vol. 3 No. 9

PA 21T43

Haimovici, Adolf

RUMANIA/Mathematics - Geometry, Differential  
Mathematics - Surfaces Jul/Dec 1946

"On a Certain Deformation of the Spherical Congruences"  
Adolf Haimovici, 17 pp

"Bul Politehnicii 'Gh Asachi' din Iasi" Vol 1, No 2

Discussion of the theorems of Peterson and Cartan,  
in connection with the conservation of the angle  
between two tangent planes on corresponding spheres  
in Euclidean space.

21T43

Balooresh, Adolf. On the problem of interaction of two species with one living at the expense of the other. Acad. Repub. Pop. Romane. Bul. Sti. A. 1, 213-215 (1949). (Romanian. Russian and French summaries)

L'auteur étudie la coexistence de deux espèces dont la première ( $x$ ) produit une substance ( $y$ ), et la deuxième ( $z$ ) se nourrit de ( $x$ ) et de ( $y$ ). L'auteur postule sans les justifier, les équations intégro-différielles suivantes

$$(1) \frac{dx}{dt} = x \left[ \epsilon_1 - \gamma y - \delta z - \int_0^t F_1(\tau) y(t-\tau) d\tau \right].$$

$$(2) \frac{dy}{dt} = y \left[ -\epsilon_2 + \gamma x + \delta z + \int_0^t F_2(\tau) x(t-\tau) d\tau \right].$$

$$(3) \frac{dz}{dt} = \alpha x - \alpha y + \int_0^t [F_3(\tau) x(t-\tau) - F_4(\tau) y(t-\tau)] d\tau,$$

en supposant que les valeurs de  $x$ ,  $y$ ,  $z$  dans l'intervalle  $-\infty < t < 0$  sont connues et que les fonctions  $F_i$  et les paramètres  $\epsilon_i$ ,  $\gamma_i$ ,  $\delta_i$  sont positifs. Il en tire sans démonstration quelques propositions sur le comportement de cette triple symbiose. Les équations paraissent contenir quelques erreurs dues peut-être à l'imprimerie; par exemple, dans l'équation (2) on devrait avoir  $\gamma x$  à la place de  $\gamma \dot{x}$ .

V. A. Kostitzin (Paris).

Vol 13 No. 8

1949 5/20/1978 10/11

HAIMOVICI, ADOLF

Mathematical Reviews  
Vol. 14 No. 11  
December, 1953  
Geometry.

7-13-54  
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Haimovici, Adolf. On some asymptotic transformations.  
Acad. Repub. Pop. Române. Bul. Ști. A. 1, 847-854  
(1949). (Romanian. Russian and French summaries)

This is a study by the method of E. Cartan of transformations of surfaces which preserve asymptotic lines. Typical results are the following. A surface in asymptotic correspondence with a given surface preserving total curvature depends on four arbitrary functions of one variable. There is but one pair of surfaces in asymptotic correspondence which pass through two given curves tangent to the developables of these curves and having equal principal curvatures at corresponding points. J. L. Vanderslice.

Haimovici, A.

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4 Haimovici, A. Le problème de l'évolution de deux espèces en conditions spéciales. Acad. R. P. Române. Fil. Iași. Stud. Cerc. Sti. I (1950), 129-144. (Romanian)

15 L'A étudie par la méthode de Volterra l'interdépendance entre les nombres d'individus  $x$  et  $y$  de deux espèces et d'un prédateur  $z$  secreté par les individus de l'une des deux espèces. Les équations décrivant l'interdépendance sont érites sous la forme:

$$\frac{dx}{dt} = x \left[ c_1 - \gamma_1 y - \delta_1 z - \int_0^{\infty} F_1(r) y(t-r) dr \right].$$

Haimovici, A. The problem of the evolution of two species in special conditions.

Sources: Acad. R. P. Române. Fil. Iași. Stud. Cerc. Sti. I (1950), 129-144. (Romanian.)

Haimovici, A.

$$\frac{dy}{dt} = y \left[ -\epsilon_2 + \gamma_2 y + \delta_2 z + \int_0^\infty F_2(\tau) x(t-\tau) d\tau \right].$$

$$\frac{dz}{dt} = x, x = x_0 y + \int_0^\infty [F_3(\tau) x(t-\tau) - F_4(\tau) y(t-\tau)] d\tau.$$

On démontre que ce système a une intégrale unique, si l'on connaît les fluctuations des espèces et de la quantité de produit pendant la période de l'hérédité (§ 1, 2 et 3). On étudie ensuite les petites fluctuations autour de l'état stationnaire, s'il y a un tel état (§ 4). Dans le cas particulier où les quantités  $x$ ,  $y$  et  $z$  tendent vers des limites pour  $t=\infty$ , alors ou bien ces limites sont les valeurs stationnaires, ou bien les espèces se détruisent, tandis que la quantité  $z$  tend vers le plus grand des rapports  $\epsilon_1/\delta_1$ ,  $\epsilon_2/\delta_2$  (§ 5 et 6). Dans le même cas, où les quantités  $x$ ,  $y$ ,  $z$  tendent vers les limites, les valeurs moyennes des espèces, pendant

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Hainsvici, A.

une force qui tend vers l'infini, soit précisément lorsque les parties initiales de T-S. On détecte un nombre fini d'espèces, proportionnellement au nombre des individus de ces espèces et uniformément dans le temps. L'importance relative des deux espèces reste constante, alors que la moyenne leur revient. Enfin, il existe une période de transition où les mouvements d'espèces sont chaotiques, tandis que la moyenne passe à être cette même quantité. §8

Audierferat (Zbl 41, 492),

1. -- F,



HAIMOVICI, ADOLF.

Haimovici, Adolf. On variations of a milieu formed from an arbitrary number of species and an arbitrary number of substances. Acad. Repub. Pop. Române, Bul. Sti. Ser. Mat. Fiz. Chim. 2, 27-32 (1950). (Romanian. Russian and French summaries)

In spite of the title the author treats only the system

$$x' = -\epsilon_1 + \alpha_1 y + \beta_1 z + \int_{-\infty}^t [f_1(t-\tau)y(\tau) - f_2(t-\tau)z(\tau)]d\tau,$$

$$y' = -\epsilon_2 - \alpha_2 y + \beta_2 z - \int_{-\infty}^t [f_3(t-\tau)x(\tau) + f_4(t-\tau)z(\tau)]d\tau,$$

$$z' = -\alpha_3 x - \beta_3 y$$

$$+ \int_{-\infty}^t [f_5(t-\tau)x(\tau) + f_6(t-\tau)y(\tau) - f_7(t-\tau)z(\tau)]d\tau,$$

with  $x$  and  $y$  representing the species and  $z$  the substance, all constants being positive and all functions positive, bounded, and integrable over the infinite range. He asserts that given the functions  $x$ ,  $y$  and  $z$  on the range from  $-\infty$  to  $t$  the existence and unicity of the solution was demon-

strated by the method of successive approximation, and exhibits majorants used in the demonstration.

A. S. Householder (Oak Ridge, Tenn.).

Source: Mathematical Reviews,

Vol. 13, No. 7

*Simon*

Haimovici, Adolf.

Haimovici, Adolf. On Finikov's conformal geometry of surfaces. Acad. Repub. Pop. Române. Bul. Sci. Sti. Mat. Fiz. Chim. 2, 417-424 (1950). (Romanian. Russian and French summaries)

Properties of the two sheets of the envelope of a congruence of spheres from the conformal point of view are deduced from a paper of Finikov. [Mat. Sbornik 2(44), 627-663 (1937)]. Let  $M$  and  $M'$  be the points of contact of a generating sphere of the congruence, and  $S$  and  $S'$  the surfaces generated by them. Let  $F$  be the correspondence between  $M$  and  $M'$ . Then  $F$  transforms curves  $C_1, C_2$  of a net  $N$  of  $S$  into curves  $C'_1, C'_2$  of a net  $N'$  of  $S'$ . There is ordinarily a unique net  $N$  (and hence a unique  $N'$ ) for which the tangents to corresponding curves under  $F$  intersect. These nets  $N$  and  $N'$  are conjugate and are preserved under  $F$ . If, however, the spheres of the congruence are orthogonal to a sphere  $S_0$ , then  $S$  and  $S'$  are inverses with respect to  $S_0$ , and  $N$  and  $N'$  are indeterminate. If it be required that there exist corresponding curves  $\Gamma_1, \Gamma_2, \Gamma'_1, \Gamma'_2$ , such that the tangents to  $\Gamma_1, \Gamma'_1$ , and to  $\Gamma_2, \Gamma'_2$ , intersect then the congruence depends on six arbitrary functions of a single variable, there being an infinity of such curves  $\Gamma_1, \Gamma'_1$  but a single invariant net  $N(N')$  described above.

V. G. Grove (East Lansing, Mich.).

Sources: Mathematical Reviews,

Vol. 13 No. 7

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Haimovici, Ad.

Haimovici, Ad. Sur un système d'équations intégro-différentielles. Com. Acad. R. P. Române 1 (1951).

1 - F/W

13-18. (Romanian. Russian and French summaries)

L'auteur étudie un système d'équations intégro-différentielles, dont certaines sont linéaires, généralisant des équations de biologie mathématique dont la théorie a été commencée par Volterra [Leçons sur la théorie mathématique de la lutte pour la vie, Gauthier-Villars, Paris, 1931]. On donne des résultats d'existence et unicité des solutions, obtenus par approximation successive et on montre comment on peut préciser les limites pour  $t \rightarrow +\infty$ , lorsqu'on suppose qu'il y a des limites fines. M. Brelot.

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HAIMOVICI, AD

Haimovici, Ad. Espaces à métrique angulaire. Com. Acad. R. P. Române 1 (1951), 157-163. (Romanian). 1 - F/W

Russian and French summaries)

Given is a two-dimensional  $S_2$  with connection given by  $dX^i + \Gamma_{jk}^i X^j dx^k = X^i d\varphi$ , of which the angle between two vectors is given by a function  $V(x^i, X^i, Y^i)$  which is additive, invariant under parallel displacement, homogeneous of degree zero in the two vectors and invariant under a coordinate transformation. If  $R_{121}^{-1} = R_{122}^{-1}$ ,  $R_{131}^{-1} = R_{132}^{-1} = 0$ , then

$$V = i \left( \frac{a_1 X^2 + a_2 X^1}{a_3 X^2 + a_4 X^1} \right) - i \left( \frac{a_1 Y^2 + a_2 Y^1}{a_3 Y^2 + a_4 Y^1} \right)$$

and absolute parallelism exists. If these relations are not fulfilled, the search leads to the types

$$V = \frac{K}{R_{122}(a_2 - a_1)} \log \frac{X^1 Y^2 - a_1 X^1 Y^2 - a_2 X^2 Y^1 + a_1 a_2 X^1 Y^1}{X^1 Y^2 - a_1 X^1 Y^2 - a_2 X^2 Y^1 + a_1 a_2 X^2 Y^2} \\ (R_{122}^{-1} a^2 + (R_{131}^{-1} - R_{122}^{-2}) a - R_{131}^{-2} = 0),$$

$\cos V =$

$$\frac{a X^1 Y^1 + b (X^1 Y^2 + X^2 Y^1) + c X^2 Y^2}{(a(X^1)^2 + b X^1 X^2 + c (X^2)^2)^{1/2} (a(Y^1)^2 + b Y^1 Y^2 + c (Y^2)^2)^{1/2}}$$

D. J. Struik (Cambridge, Mass.).

Haimovici, Adolf

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Haimovici, Adolf. Espaces à métrique angulaire. II. I. - F/W  
Acad. R. P. Roumâne Fil. lașt. Stud. Cerc. Sti. 2(1951)

66-82 (Romanian. Russian and French summaries.)

(Pour la première partie voir l'analyse ci-dessus.)  
Soient  $S$  un espace à connexion affine, à deux dimensions,  
et les coordonnées d'un point de cet espace,  $X^i$  et  $Y^i$  les  
composantes de deux directions. Le transport parallèle  
dans cet espace est défini par  $(X^i + F_{ij}^{ik} X^k) dx^j = X^i$ ,  
 $\omega_{ij} = \frac{1}{2} F_{ijk} dx^k$ . On définit comme angle dans  $S$  une fonction  
 $V(x^i, Y^i)$  qui satisfait aux exigences suivants: a) elle  
est indépendante du facteur arbitraire qui entre dans les  
composantes  $X^i$  d'une part, et  $Y^i$  d'autre part; b) elle est  
invariante aux transformations de coordonnées dans  $S$ ;  
c) elle se conserve par le transport parallèle des directions  
 $X^i$  et  $Y^i$ . Les équations qui définissent cette fonction et les  
espaces qui admettent de telles fonctions s'obtiennent en  
exprimant ces conditions mêmes. On trouve quelques cas

Haimovici, Adolf. Apărare matricială a ecuației II.

Sourcă: Acad. R. P. Române, Fil. Ști. Mat., București, Seria:  
Sti. 2(1951), 66-82. (Romanian, Russian and  
French summaries)

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*Hausdorff, Adolf*

spéciaux, y compris le cas des espaces à parallélisme ab-  
solu. Si  $S$  est un espace à  $n$  dimensions qui admet un angle  
satisfaisant aux axiomes a), b), c) de plus haut, la fonction  
 $V$  doit satisfaire aux équations

$$X^i \partial V / \partial X^i = 0, Y^i \partial V / \partial Y^i = 0,$$
$$\partial V / \partial x^k - \Gamma_{kk}^i X^i \partial V / \partial X^k - \Gamma_{kk}^j Y^j \partial V / \partial Y^k = 0$$

La condition pour qu'un tel angle existe est qu'il y ait un  
entier  $p$ , tel que les équations du système

(p)  $R_{ijk, m=1}^k (X^i \partial V / \partial X^k + Y^i \partial V / \partial Y^k) = 0$

soient toutes linéairement dépendantes des équations pré-  
cédentes ( $q$ ),  $q = 1, 2, \dots, p-1$ , et que, si  $m$  est le nombre  
des équations linéairement indépendantes, on ait  $m \leq 2p-3$ .  
3. La métrique angulaire est donnée par une fonction de  
 $2n-m-2$  variables indépendantes. Cas particuliers:  
a) Un espace à courbure et à torsion nulle; b) on impose  
encore l'axiome d): la mesure de l'angle de deux directions  
dans  $S$  est égale à la mesure de l'angle des mêmes direc-  
tions considérées dans chaque sous-espace à deux dimen-  
sions qui les contiennent. *Autoreferat (Zbl 43, 253).*

HAIMOVICI, A.

"Contributions to the mechanics of a point of variable mass. p. 61." BULETIN STIINTIFIC.  
Vol. 4, No. 1, Jan./Mar. 1952. Bucuresti, Rumania.

SO: Monthly List of East European Accessions, L.C.Vol. 2, No.11, 1953. Uncl.

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810020-6

for the solution of differential equations  
R. Hermann (Jerusalem)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810020-6"

HAIMOVICI, Adolf

"Contributions a la mecanique du point de masse variable." Revue de Matematiques et de Physique, Vol. 2, 1954

Haimovici, Adolphe

Haimovici, Adolphe. Sur quelques invariants attachés à un couple de vecteurs d'un espace à connexion affine à deux dimensions. Acad. Repub. Pop. Române. Bul. řti. Sect. Sti. Mat. Fiz. 6, 31-48 (1954). (Romanian, Russian and French summaries)

1 - R/3

The  $A_i$  under consideration admit, under parallel transformation, an invariant belonging to any couple of vectors  $X^i, Y^i$  attached to a point. The classification depends on the rank of the two matrices

$$R = \begin{vmatrix} R_{111} & R_{112} & R_{121} & R_{122} \\ R_{112,1} & R_{122,1} & R_{221,1} & R_{222,1} \\ R_{112,2} & R_{122,2} & R_{221,2} & R_{222,2} \end{vmatrix}$$

where the commas indicate covariant differentiation, and

$$A = \begin{vmatrix} a_1^1 & a_1^2 & a_2^1 & a_2^2 \\ b_1^1 & b_1^2 & b_2^1 & b_2^2 \\ c_1^1 & c_1^2 & c_2^1 & c_2^2 \\ d_1^1 & d_1^2 & d_2^1 & d_2^2 \\ e_1^1 & e_1^2 & e_2^1 & e_2^2 \end{vmatrix}, \quad \begin{array}{l} a_i^j = R_{i11}^j \\ b_i^j = R_{i12}^j \\ c_i^j = c_i^m b_m^j - a_{1i} b_i^m \\ d_i^j = a_i^m c_m^j - a_{ii} c_i^m \\ e_i^j = b_i^m c_m^j - b_{ii} c_i^m \end{array}$$

Lefc

The invariant  $X^i Y^j - X^j Y^i$  appears when the rank of  $R$  and  $A$  is three, except when a certain relation between the  $R_{ij}$  exists. The cases in which  $R$  and  $A$  have rank  $< 3$  are also analyzed.

D. J. Struik (Cambridge, Mass.)

8/14

HAINOVICI A.

"Geometry of a Monge equation of a special type" p. 17; "Journal on science issued by the Iasi Branch, Rumanian Academy; with French and Russian summaries. Quarterly". (STUDII SI CERCETARI STIINTEIFICE, Vol. 5, no. 1/2, Jan./June 1954, Filiala Iasi)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 5, May 1955, Uncl.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810020-6"

Observations of the Systems of Linear Equations With Partial Derivatives of the  
First Order With Linear Coefficients

Haimovici, Adolf. Observations sur les systèmes d'équa- 2  
tions linéaires aux dérivées partielles du premier ordre à  
coefficients linéaires. Rev. Univ. "Al. I. Cuza" Inst.  
Politehn. Iași 2 (1955), 5-23. (Romanian. Russian and  
French summaries)

1-FW

Haimovici, Adolf.

Haimovici, Adolf. Espaces à connexion affine qui admettent la notion d'aire. Acad. R. P. Române. Fil. Iași. Stud. Cerc. Ști. 6 (1955), 123-133. (Romanian. Russian and French summaries.)

In a space with affine connection one can attach to two vectors  $X^i$  and  $Y^j$  an invariant which has the character of an area ( $S$ ), by the formula

$$S^2 = a_{ijkl}(X^i Y^l - X^l Y^i)(X^k Y^k - X^k Y^k),$$

where  $a_{ijkl} = a_{hEij} = \dots = g_{ijkl}$  is the "areolar tensor". The condition that  $S$  should be invariant under a parallel transport of  $X^i$  and  $Y^j$  leads to a system of linear partial differential equations of the first order in  $a_{ijkl}$ .

In the present paper two particular cases for  $a_{ijkl}$  are discussed: 1)  $a_{ijkl} = g_{ijkl}$ , where  $g_{ij}$  is skew-symmetric in  $i, j$ . For  $n=2$  the space is equiaffine (without torsion) according to the author. For  $n=2$  and  $\alpha < 0$  the author's result is established. It is then shown how the coefficients  $a_{ijkl}$  of the affine connection can be determined. The area of a surface in a region depends, in this case, only upon the boundary curve. 2) There exists a coordinate system in which  $g_{ijkl} = 0$  ( $i \neq k$ ,  $j \neq l$ ) and  $g_{ijkl} \neq 0$ , otherwise. It is shown that in this case the space is locally Euclidean.

HAIMOVICI, ADOLF

Haimovici, Adolf. Sur quelques invariants dans les espaces à connexion affine. Acad. R. P. Române, Bul. Sti. Secți. Sti. Mat. Fiz. 7 (1955), 595-622. (Romanian, Russian and French summaries)

In two previous papers [Com. Acad. R. P. Române 1 (1951), 157-163; Acad. R. P. Române, Fil. Iași, Stud. Acad. Cerc. Sti. 2 (1951), 66-82; MR 17, 408] the author has studied spaces with affine connection for which a function  $f$  involving a point  $x^i$  and two directions  $X^i, Y^i$  remains invariant under parallel transport. In particular the case of two dimensions has been treated. In the present paper the author considers the case of three dimensions.

The problem leads to the consideration of a system of linear partial differential equations  $S$  whose coefficients are linear in  $X^i$  and  $Y^i$ . Because  $f$  depends upon the nine variables  $(x^i, X^i, Y^i)$  it is concluded that  $S$  will have to contain at most eight linearly independent equations in order to admit one invariant, at most seven in order to admit two invariants and so on. The author limits himself to the case when the linear relations between the left-hand sides of the equations of  $S$  are independent of  $(X^i, Y^i)$ .

1 - F/W

*Haimo et al., Holtz.*

There follows an algebraic study of a certain subsystem of  $S$  which leads, if the existence of only one invariant is assumed, to 8 different cases. For each of these cases  $S$  is integrated and the fundamental invariant given in explicit form. The same is done if the existence of two, three or four invariants is assumed; this results in five, three or one cases respectively. Finally the author shows that these spaces admit in general a field of parallel directions and that they include as a particular case the Riemannian spaces.

*R. Blum (Saskatoon, Sask.).*

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HAJMOVICI, A.

HAJMOVICI, A. Concert of Tensors. p. 62.

Vol. 7, no. 2, Feb. 1955  
GAZETA MATEMATICA SI FIZICA. SERIA A.  
SCIENCE  
Bucuresti

So: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, (EEAI), LC, Vol. 4. no. 9,  
Sept. 1955, Uncl.

RAICOVICI, A.

RAICOVICI, A. On the modernization of the secondary-education programs. p. 449.  
Vol. 8, no. 12, Dec. 1956

GAZETA INFORMATICA SI STIHLICA, SERBIA A.  
SCOFROM  
ROMANIA

See: East European Accession Vol. 6, No. 4, May 1957

## Problems Solvable by the Method of Separation of Variables

4783:

Haimovici, Adolf. Sur certains problèmes aux limites résolubles par la méthode de la séparation des variables. An. Sti. Univ. "Al. I. Cuza" Iași. Sect. I (N.S.) 3 (1957), 45-51. (Russian and Romanian summaries)

The author applies the method of the separation of variables to linear problems of the type  $Au = A_1u - A_2u = 0$ . Two cases are treated. 1)  $A_1$  is a completely continuous self-adjoint linear operator which is applicable to a space of continuous functions  $v(x)$ ,  $x \in \Omega_1 \subset R^n$ .  $A_2$  is an analytic differential operator of the Cauchy-Kowalevsky type operating on analytic functions  $w(y, t)$ ,  $y \in \Omega_2 \subset R^n$ ,  $t \in I \subset R$ . 2)  $A_1$  and  $A_2$  are completely continuous self-adjoint transformations operating on continuous functions defined in  $\Omega_1$  and  $\Omega_2$ , respectively. Solutions are obtained in infinite series of products as usual. In case 1), if  $\lambda=0$  is not a characteristic value of  $A_1$ , a unique solution  $u(x, y, t)$  is found with standard boundary conditions. The non-homogeneous equation is also solved. In case 2), the equation has a solution only if the spectra of  $A_1$  and  $A_2$  have non-empty intersection. The solutions are then obtained from the manifold generated by the functions  $v(x) \cdot w(y)$ , where  $v$  and  $w$  satisfy  $A_1v = \lambda v$ ,  $A_2w = \lambda w$ .

E. K. Lorch (New York, N.Y.)

Some Invariants of Parallel Transport in a Space of Affine Connections  
(Differential Geometry)<sup>16</sup>

6/18: Haimovici, Adolf, Sur quelques invariants au transport parallèle, dans les espaces à connexion affine. Acad. R. P. Române. Fil. Iași. Stud. Cerc. Ști. Mat. 8 (1957), no. 2, 135-149. (Romanian. Russian and French summaries)

The following problem is treated in the present paper: To determine functions of the components of a tensor in a space with affine connection  $X^*$  which are invariant under the parallel transport of the tensor. This is a generalization of a problem treated by the author in previous papers [see Rend. Mat. e Appl. (5) 15 (1956), 385-452; MR 20 #3579].

The problem reduces to a system of  $n$  partial differential equations of the first order and the Poisson brackets obtained from it. This system is linear with coefficients

which are linear in the components of the tensor and can be studied in the same way as in the paper mentioned above. Some of the results obtained are:

If  $X^n$  admits  $r$  invariants attached to a tensor of order  $m$  then it admits  $r' > r$  invariants attached to a tensor of order  $m' > m$ .

Every  $X^n$  admits at least  $n^3(n-1)$  invariants attached to a tensor of order 3. These invariants are found explicitly in the case  $n=2$ .

Every  $X^3$  admits one invariant attached to a co- or contravariant tensor of order two, and two invariants attached to a mixed tensor of order two. All these invariants are given explicitly, together with their geometric interpretation.

The paper concludes with a study of those  $X^n$  which admit 1) the invariant function  $\varphi(x^i)\det[g_{ij}]$ ; 2) the invariant functions  $\varphi(x^i)g_{ii}$ . R. Blum (Saskatoon, Sask.)

*2*  
1-FW

Haimovici, A.

Haimovici, A., Introduction à l'étude mathématique  
des associations biologiques. Gaz. Mat. Fiz. Ser. A. 4  
(1958), 193-204. (Romanian. French and Russian summaries)

The author gives a good expository account of results obtained by V. Volterra [Leçons sur la théorie mathématique de la lutte pour la vie, Gauthier-Villars, Paris, 1931; Variazioni e fluttuazioni del numero d'individui in specie animali conviventi, Ferrari, Venice, 1927; Les associations biologiques au point de vue mathématique, Hermann, Paris, 1935]. He uses Volterra's results to discuss the case of two species, one herbivorous, and the other carnivorous, which have the same habitat.

R. G. Stanton (Waterloo, Ont.)

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MATMOVICI, A.

Spaces with angular metrics. III. p. 131.

STUDII SI CERCETARI STINTIFICE. MATEMATICA. Iasi. Romania. Vol. 9, no. 2, 1958.

Monthly List of East European Accessions (MEAL) LC, Vol. 9, no. 1, January 1960.

Uncl.

HAIMOVICE, Adolf, prof.

On some transformations between the spaces with affine  
connection. Studii mat Iasi 12 no.2:347-353 '61.

1. Membru al Comitetului de redactie, "Studii si cercetari  
stiintifice, Matematica" (Iasi)

ANASTASIE, Ionel Gheorghe.

Teaching the notion of the function. Gac Mat. 1969 no.3 pp.29-36  
Mr. Teiu.

I., "Al. I. Cuza" University, Iasi.

HAIMOVICI, Adolf

On a system of equations with partial derivatives.  
Comunicarile AR 12 no.2:195-200 F '62.

1. Comunicare prezentata de M. Haimovici, membru  
corespondent al Academiei R.P.R.

HAIMOVICI, Adolf

Connection of Cartan's spaces. Studii mat Iasi 13 no.1:129-149  
'62.

HAIMOVICI, A. (Iasi)

A generalization of the Cauchy-Kowalewsky problem. Mat lapok  
13 no.1/2:201 '62.

HAIMOVICI, Adolf, prof.

Mathematical problems in the theory of automatic control. Gaz  
mat fiz 14 no.1:1-19 Ja '62.

1. University, Iasi.

HAIMOVICI, A., prof. univ. (Iasi)

About the modernization of the analytic programs of mathematics  
in the field of general education. Gaz mat fiz 14 no.5:246-  
262 My '62.

HAIMOVICI, Adolf, prof. univ.

Euclid. Gaz mat B 14 no.4:193-198 Ap '63.

HAIMOVICI, Adolf (Iasi)

Systems of total integrable differential equations which  
generalize the Pfaffian systems. Studia Univ B-B S. Math-  
Phys. 7 no.1:81-94 '62.

CLIMESCU, Al., HAIMOVICI, A.

Introduction of some chapters of mathematics necessary in the economy, into all grades of the teaching program. Gaz mat fiz 70 no.3:99-106 Mr '65.

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S/044/62/000/002/017/092  
C111/C333

AUTHOR: Haimovici, C.

TITLE: Elementary functions in the algebra of quaternions

PERIODICAL: Referativnyj zhurnal, Matematika, no. 2, 1962, 40,  
abstract 2B169. ("An. știint. Univ. Iași", 1960, sec. 1,  
6, no. 2, 241-244)

TEXT: Let  $q$  be an element of the quaternion algebra,  $Q$  the matrix which corresponds to it in the (left) regular representation of the algebra,  $f(z)$  an elementary function of the complex variable  $z$ . Then  $f(Q) = p(Q)$  is a polynomial of this matrix. The author puts by definition  $f(q) = p(q)$  and obtains concrete expressions for the power, exponential, logarithmic and trigonometric functions of the elements  $q$  of the quaternion algebra.

[Abstracter's note: Complete translation.]

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HAIMOVICI, Corina

Explicit form of elementary functions in the algebras of  
antiquaternions, zemiquaternions, and semiantiquaternions.  
Studii mat Iasi 12 no.2:213-218 '61.

GREANGA, Ion; HAIMOVICI, Corina

Concerning the matrix equation  $XA = YX$  (I).  
Studii mat Iasi 13 no.1:7-14 '62.

HAIMOVICI, Corina

Pseudonilpotent elements. Studii mat Iasi 13 no.2:229-234 '62.

CREANGA, I.; HAIMOVICI, Corina

On the matrix equation  $XA = YX$ . Pt. 2. Studii mat Iasi 14  
no.1:7-10 '63.

SZILAGYI, P.; IONESCU, D.V., prof. dr.; IACOB, C., acad. prof.; HAIMOVICI, M., acad. prof.; CALUGAREANU, G., acad. prof.

About solving the Dirichlet's problem on the system of equations of elliptic type, second order, with partial derivatives. Studia Univ B-B S. Math-Phys 9 no.2:140-142 '64.

1. "Babes-Bolyai" University, Cluj (for Ionescu, Calugareanu).
2. Universit. of Bucharest (for Iacob). 3. "A.I.Cuza", Iasi (for Haimovici).

HAIMOVICI, MENDEL

Haimovici, Mendel. Sur les familles de transformations  
ponctuelles simplement transitives. Acad. Roum. Bull.  
Sect. Sci. 28, no. 3, 5 pp. (1945).

This is a preliminary note. If a set of transformations... 16  
 $X^i = F(x^1, \dots, x^n; a^1, \dots, a^n)$  in  $n$  variables with  $n$  parameters is given, in the  $X_1$ , of  $X^i$ ,  $X_1$  a linear connection can be uniquely fixed by giving some invariant conditions. The quantities of curvature and torsion can be computed. The set is a group if and only if the curvature vanishes. In this case the connection can be brought back to the connection of Cartan and Schouten in the group manifold. A hint is given as to the sets admitting a transitive group in themselves.

J. A. Schouten (Epe).

Source: Mathematical Reviews, 1948, Vol 9, No. 1

F A M I L I E S M.

P. Lelong, M. Sur les espaces des familles de transformées de Fourier et de leurs applications à l'analyse stochastique. Séminaire Bourbaki, 1974-75, n° 400, p. 1-20.

M. Lelong, P. Lelong, Sur les espaces des familles de transformées de Fourier et de leurs applications à l'analyse stochastique. Séminaire Bourbaki, 1974-75, n° 400, p. 21-30.

(1) (b) (mary) *Autre article dans ce même volume*

M. Lelong in einer Reihe von Arbeiten (Ann. Sci. Éc. Norm. Sup. 1970, Vol. 3, p. 39-119; Dispositio. Math. 1970, Vol. 1, p. 1-12; MR 10, 687) untersucht die  
Familien von transformierten Funktionen und deren  
Anwendungen auf die stochastische Analysis.  
Diese Resultate sind jedoch nur qualitativ.  
Die Arbeit von A. Friedman (J. Funct. Anal. 1970, p. 1-12) ist dagegen quantitativ.  
Sie enthält einen Beweis für den Satz von Lelong.

See also M. Sur les espaces des familles de transformées de Fourier et de leurs applications à l'analyse stochastique. Séminaire Bourbaki, 1974-75, n° 400, p. 1-20.

See also M. Lelong, P. Lelong, Sur les espaces des familles de transformées de Fourier et de leurs applications à l'analyse stochastique. Séminaire Bourbaki, 1974-75, n° 400, p. 21-30.

See also M. Lelong, P. Lelong, Sur les espaces des familles de transformées de Fourier et de leurs applications à l'analyse stochastique. Séminaire Bourbaki, 1974-75, n° 400, p. 21-30.

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Haimovici, M. On the completion of Pfaffian systems.

It describes a system of Pfaffian equations and with the characteristic system in connection with respect to the first three variables the antisymmetric third order differential operator  $D_{123}$  is defined. It is shown that the differential operator  $D_{123}$  is a linear combination of the second order differential operators  $D_{12}$  and  $D_{13}$ . The coefficients of the linear combination are constant functions of the variables  $x_1, x_2, x_3$ . The differential operators  $D_{12}$  and  $D_{13}$  are independent of the variable  $x_1$ . The proofs are taken given elsewhere.

M. Haimovici, Dordrecht, May 1971.

Mathematical Reviews  
Vol. 15 No. 1  
Jan. 1954  
Analysis

\*Haimovici, Mendel. Sur l'intégration des systèmes de deux équations aux dérivées partielles du I-er ordre à deux fonctions inconnues de deux variables indépendantes. Comptes Rendus du Premier Congrès des Mathématiciens Hongrois, 27 Août-2 Septembre 1950, pp. 585-590. Akadémiai Kiadó, Budapest, 1952. (Hungarian and Russian summaries) (2)

Es handelt sich um die Verallgemeinerung der Darboux-schen Integrationsmethode auf Systeme zweier partieller Differentialgleichungen in zwei abhängigen und zwei unabhängigen Veränderlichen. Die Werte der vier ersten Ableitungen der beiden unbekannten Funktionen  $u$  und  $v$  nach den unabhängigen Veränderlichen  $x$  und  $y$  erscheinen als Koeffizienten eines mit dem gegebenen System äquivalenten Pfaffschen System zweier Gleichungen in vier Veränderlichen. Jellem Integrallinienelement  $E_1$  des Pfaffschen Systems entspricht ein zweidimensionales Integral-element  $E_2$  gebildet aus  $E_1$  und einem zweiten zu  $E_1$  involutorischen Integrallinienelement. Aus dem Verschwinden der bilinearen Kovarianten der Pfaffschen Gleichungen gewinnt der Verfasser zwei weitere Pfaffsche Gleichungen, deren Koeffizientenmatrix für nichtcharakteristische Richtungen den Rang 2 hat. Für charakteristische Richtungen vermindert sich dieser Rang. Diese Rangeigenschaften liegen der weiteren Entwicklung der Integrationstheorie zu Grunde.

M. Pint (Dacca).

Hainovici, M.

ANNEXE 3  
La géométrie des systèmes décrits quel que soit le rapport entre les deux paramètres fondamentaux de la théorie des champs, à savoir la constante fondamentale de la gravité et la constante fondamentale de l'électromagnétisme. Les résultats obtenus sont les suivants :  
1) Si la constante fondamentale de la gravité est suffisamment grande, il existe un système de deux corps dans lequel l'interaction gravitationnelle est suffisamment forte pour empêcher l'écoulement de la matière dans les deux corps. Ce système est stable et il existe une solution unique pour les deux corps.  
2) Si la constante fondamentale de la gravité est suffisamment petite, il existe un système de deux corps dans lequel l'interaction gravitationnelle est suffisamment faible pour permettre l'écoulement de la matière dans les deux corps. Ce système est instable et il existe plusieurs solutions possibles pour les deux corps.  
3) Si la constante fondamentale de la gravité est suffisamment grande, il existe un système de deux corps dans lequel l'interaction gravitationnelle est suffisamment forte pour empêcher l'écoulement de la matière dans les deux corps. Ce système est stable et il existe une solution unique pour les deux corps.  
4) Si la constante fondamentale de la gravité est suffisamment petite, il existe un système de deux corps dans lequel l'interaction gravitationnelle est suffisamment faible pour permettre l'écoulement de la matière dans les deux corps. Ce système est instable et il existe plusieurs solutions possibles pour les deux corps.

ANNEXE 4

Haimovici, M.

Haimovici, M. Remarques sur les six familles de courbes  
sur une surface étudiées dans la note précédente par  
l'acad. Gr. C. Moisil. Gaz. Mat. Fiz. Ser. A. 7 (1955),  
295-297. (Romanian. Russian and French summa-  
ries)

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HAIMOVICI, M.

Haimovici, M. Sur les prolongements partiels d'un système de Pfaff du II-ème genre. Acad. R. P. Romine  
Fă Iași. Stud. Cerc. Ști. 6 (1955), 91-104 (Romanian  
Russian and French summaries)

64  
I-FW

Haimovici, M. Sur le prolongement des équations du  
II-e ordre à une fonction inconnue de deux variables  
indépendantes et sur les transformations de ces équa-  
tions. An. Ști. Univ. "Al. I. Cuza" Iași. Secți. I (M 5 )  
1 (1955), 69-136. (Romanian, Russian and French  
summaries)

Spur  
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Reducible Pfaff Systems of Genus 2. (Differential Equations)

6580:

Haimovici, M. Systèmes Pfaff du II-e genre, à caractère réductible. Acad. R. P. Romine. Fil. Cluj. Stud. Cerc. Ști. Ser. I. 6 (1955), no. 3-4, 17-25. (Romanian, Russian and French summaries)

"In this note the author considers a Pfaff system of genus II and kind I. Sufficient conditions for the reduction of the character of the system are studied together with the method of effectively reducing the character when these conditions are satisfied. In the cases in which this character reduces to one, the integration reduces to that of a system of ordinary differential equations." (From the introduction of the author)

R. Blum (Saskatoon, Sask.)

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1-FW

Haimovici, Mendel. Quelques propriétés des éléments intégraux d'un système de Pfaff du II<sup>e</sup> genre. Acad. Repub. Pop. Romine. Bul. Sti. Sect. Sti. Mat. Fiz. 7 (1955), 301-311. (Romanian. Russian and French summaries) *M. Thomas*

Haimovici, M. Quelques propriétés du prolongement d'un système de Pfaff du II<sup>e</sup> genre. Acad. R. P. Romine. Bul. Sti. Sect. Sti. Mat. Fiz. 7 (1955), 583-594. (Romanian. Russian and French summaries).

If  $\theta_1 = \dots = \theta_s = 0$  is a linear Pfaffian system and  $\theta'_i$  are the derived forms of the left members, then  $\theta'_i$  are congruent modulo the system to forms  $\varphi_i = A_{ij}\omega_j/\omega_k$ , where  $\theta_1, \dots, \theta_s, \omega_1, \dots, \omega_{n-s}$  are a set of  $n$  linearly independent forms,  $n$  being the number of independent variables. The present two papers consider the case where  $\varphi_i = \varphi_i\omega_1 + \varphi_{i2}\omega_2$ , the  $\varphi$ 's and  $\omega$ 's being linear. Numerous formal results about so-called reducing Pfaffian systems are given. Generalizations and applications to the study of the solution of the original Pfaffian system are promised.

J. M. Thomas (Durham, N.C.).

*Heath*  
Haimovici, Mendel: On some properties of the integral elements of a Pfaffian system of the second kind

Haimovici, M.: Some properties of the prolongation of a Pfaffian system of the second kind

HAIMOVICI, Mendel

"Quelques proprietes des elements integraux d'un systeme de Pfaff du II genre.  
"Revue de Mathematiques Pures et Appliquees, Vol I, No. I, 1956

Reducible Differential Systems (Differential Equations)

6581:

Haimovici, M. Systèmes différentiels à caractère réductible. Com. Acad. R. P. Romine 6 (1956), 975-980.  
(Romanian. Russian and French summaries)

In a previous paper [#6580] the author considered differential systems of genus 2, and proved a result which constitutes a generalization of the method of Darboux for integrating partial differential equations of the second order in two independent variables. The present note announces the corresponding result for systems of genus  $p$ , which is to be published in detail later.

J. B. Diaz (College Park, Md.)

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1-FW

HAIMOVICI, M.

On the intergration of 2d oreer equations with partial derivatives by means  
of differential equations. In French. p. 489.

REVUE DE MATHEMATIQUES PURES ET APPLIQUEES. JOURNAL OF PURE AND APPLIED  
MATHEMATICS. (Academia Republicii Populare Romane) Bucuresti. Rumania.  
Vol. 2, 1957.

Monthly List of East European Accessions (EELA) Vol. 9, no. 1, January 1960.

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"Concerning In-Hospital Infections Due to Pathogenic Esch. coli."

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Abstract [Authors' English summary modified]: Describes an infection with enteropathogenic E. coli O<sub>25</sub>:L<sub>11</sub> in a maternity hospital and an infection with serotype O<sub>111</sub>:B<sub>4</sub> in another hospital. Hospital conditions rendered the viral source more active epidemiologically than family foci. No long-term carriers were detected. In-hospital infections of this type spread rapidly among newborns and their prophylaxis is difficult. Includes a bibliography with 21 entries, of which 7 Western, 3 Russian and 11 Rumanian.

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1622. TUBERCULOUS ANAL FISTULAS. A CONTRIBUTION TO THE PROBLEM OF NON-SURGICAL TREATMENT - Les fistules anales tuberculeuses. Contribution au problème du traitement non-opératoire - Haimovici-Hanes N. Bucarest - SEM. HOP. PARIS 1959, 35/12 (952-954)

Tuberculous anal fistula is an affection which as a rule cannot be cured with the usual methods of medical treatment. Operation gives good results in some of these cases, but may cause aggravation in others. Seven such cases have been treated with good result with local perifistulous infiltration of tuberculostatic drugs (isoniazid-streptomycin) sometimes with penicillin. At the same time a systemic anti-tuberculous treatment has been administered. The good effects in these cases were still present at the time of writing, 1-2.5 yr. later. The local treatment, which is always free from harmful effects, must be continued for 3-5 months and the systemic treatment for 8-16 months.

(V, 9, 15)

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HAIN, F. Countries of the Middle East; building materials. p. 297

Vol. 34, no. 8, Aug. 1956

STAVIVO

TECHNOLOGY

Praha, Czechoslovakia

So: East European Accession Vol. 6, no. 2, 1957

33955  
Z/031/62/000/002/002/003  
D006/D102

1,2310  
AUTHOR: Hain, Karel, Engineer

TITLE: Friction forming of tubes

PERIODICAL: Strojírenská výroba, no. 2, 1962, 69-70

TEXT: The author describes a new method of closing metal-tube ends, called friction forming, which is based on the same principle as friction welding. The tube-end is heated by friction between the rotating stock (minimum peripheral speed 150 m/min) and a carbide-tipped tool, shaped according to the desired tube-end design and lapped to a high finish. The friction produces a temperature up to 880°C at which plastic deformation of the tube-end takes place. A normal lathe-tool holder is used to which the carbide tip (CSN 42 2371 or CSN 99 9916 - S3) is brazed using the CSN 42 2371 copper or brass solder. The tube-end closures produced by this method are gas-tight, have a high-quality surface requiring no further finishing operations, and their strength is practically the same as that of the base metal. The method is applicable to both steel and non-ferrous tubes. There are 3 figures and 2 Soviet-bloc references.

Card 1/2

Friction forming of tubes

33955  
Z/031/62/000/002/002/003  
D006/D102

ASSOCIATION: Strojtex, závod Dvůr Králové n.L. (Strojtex, Branch plant, Dvůr Králové n.L.)

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Card 2/2

HAIN, Karel, inz.

Tool for shaping pipe ends by friction. Stroj vyr 13 no.3:  
196-197 Mr '65.

1. Strojetex National Enterprise, Dvur Kralove nad Labem.

HAINC, V.

"Building the foundations and the steel structure of a hall for the manufacture  
of building elements in Ostrava-Kuncicky." p. 299

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Vol. 5, No. 4, Apr. 1955

VEDENI HOSPODARSTVI

Praha, Czechoslovakia

TECHNICKY

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Some hydraulic peculiarities of diaphragm surge tanks, p. 95.  
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no. 2, Feb. 1956.

WRCN: West European Accessions List, Vol. 6, no. 7, September 1956

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Mechanical similarities in scale models of servo tanks. p. 41

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SOURCE: East European List (EEL) Library of  
Congress, Vol. 6, No. 1, January 1957